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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/520,689	08/11/2005	Jan-Erik Nilsskog	1004475.001US (4747-4000)	9868

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EXAMINER	
KHARE, ATUL P	

ART UNIT	PAPER NUMBER
1791	

NOTIFICATION DATE	DELIVERY MODE
08/03/2010	ELECTRONIC

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

ptopatentcommunication@lockelord.com

Office Action Summary	Application No.	Applicant(s)	
	10/520,689	NILSSKOG ET AL.	
	Examiner	Art Unit	
	ATUL KHARE	1791	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE *3* MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *28 June 2010*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1,2 and 8-24* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1,2 and 8-24* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☒ All b)☐ Some * c)☐ None of:

1.☒ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

Response to Amendment

1. The amendment filed 28 June 2010 has been entered and fully considered.

2. Claims 1, 2, and 8-24 are currently pending. Claims 3-7 and 25 have been cancelled.

3. No new matter has been found.

Specification

4. The specification is objected to as failing to provide proper antecedent basis for the claimed subject matter. See 37 CFR 1.75(d)(1) and MPEP § 608.01(o). Correction of the following is required: the subject matter of claims 1, 13, and 17, specifically at "wherein the surface of the studded plate is vacant below the bridges or the backs" should be added and described in the specification. It appears that support for this amendment can be found at figure 3.

Claim Rejections - 35 USC § 112

5. The following is a quotation of the second paragraph of 35 U.S.C. 112:

> The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

6. Claims 1, 2, and 8-24 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

7. As to claims 1, 13, and 17, the phrase "wherein the surface of the studded plate is vacant below the bridges or the backs" is unclear. It appears that this limitation is intended to point to the interconnected network of channels provided by the bridges or backs and present below the studded plate's surface as depicted at figure 3 of the specification. The claim will be interpreted as such for examination.

Claim Rejections - 35 USC § 103

8. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

9. The factual inquiries set forth in *Graham* v. *John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

10. Claims 1, 2, 8, and 10-24 are rejected under 35 U.S.C. 103(a) as being unpatentable over Shoe et al. (US 3,823,465) in view of Blackburn (US 3,802,790).

11. As to claim 1, Shoe teaches in a method for constructing a slab casting formwork: assembling a form at the location of a concrete joint by attaching formwork

components together (column 1 line 60 to column 2 line 19, figures 1-2), using the form to cast a first slab therein (column 2 lines 29-32), stripping the form from a cured slab (column 3 lines 35-40), and casting adjacent slabs to be keyed with the first slab using protrusions 39 formed therein (column 2 lines 54-56). The slab can be made from concrete (abstract, column 1 lines 60-64). A vacancy is present behind the casting forms (figures 1 and 2). (Note: for examination, the term "within" at line 15 of the claim is interpreted as "between".)

Shoe does not appear to explicitly disclose the specific requirements for the patterned formwork. However, Blackburn teaches in a method for producing pavement-like structures: using a patterned former to pattern a joint between two concrete components (column 1 lines 60-65). The former can remain in site or be removed at some stage during construction (abstract). More specifically, the former can either be left intact at the concrete joint, or all/some of the former can be removed at the concrete joint (column 5 lines 45-55). The former is a studded plate having backs 130 and bridges 140 between square studs positioned laterally/longitudinally in relation to each other in a pattern (figures 8-9). The backs 130 and bridges 140 make up a lattice-like network of inter-communicating channels on the underside of the studded plate (column 6 lines 41-43). Since the backs and bridges form a network of inter-communicating channels, they meet the requirement of forming a vacancy below the surface of the studded plate. Blackburn's embodiment at figure 8 shows a vacancy below the upper surface of bridges 140, and Blackburn shows embodiments at figures 4, 6, and 7, which show a vacancy below surface of the studded plate. At figure 8, bridges 140 comprise a

vertex which constitutes an area that is parallel and separate from a plane comprising the tops of the studs and a plane comprising the surface of the studded plate. At figure 9, the vertex of the backs 130 or bridges 140 constitutes an area that is parallel to and separate from a plane comprising the tops of the studs 16 and a plane comprising the surface 9 of the studded plate. (Note: the claims do not require that the backs or bridges comprise a surface area having a length and width that is parallel to and separate from the planes of the tops of the studs and the surface of the studded plate.) The studs appear to have a stud side wall inclination angle greater than 60° (figures 8-9). In the alternative that the studs do not have the required inclination angle, it would have been obvious to substitute the required inclination angle for the inclination angle of the studs in Blackburn's depicted plate because the studs can be of any size, shape, depth, or relative spacing (column 6 lines 37-38).

Shoe teaches a method for constructing a slab casting formwork having studs for patterning a concrete joint which are removed after a slab is cured, and Blackburn teaches the use of a former for patterning concrete joints. It would have been obvious to substitute Blackburn's studded plate for the studs of Shoe because (a) Shoe teaches that the formers are used to produce cavities in slabs, and the Blackburn former suggests casting of slabs, or (b) one would have recognized the interlocking pattern provided by the Blackburn former as an interchangeable substitute for the pattern provided on the Shoe forms.

12. As to claims 2 and 15, Blackburn does not appear to explicitly disclose the height or distance between the studs. However, it would have been obvious to optimize the

stud heights and distances of Blackburn particularly in view of Blackburn's teaching that the studs can be of any size, shape, depth, or relative spacing (column 6 lines 37-38).

13. As to claims 8, 10, and 11, if the prior art is capable of performing the intended use of a claim, the claim is met (MPEP 2111.02). Since the claims point to an intended use, and since modified Shoe is capable of performing this intended use, the claims are met. The orientation of the final pattern (claim 11) also points to an intended use that the prior art is capable of meeting, so claim 11 is additionally met.

14. As to claim 12, if the prior art is capable of performing the intended use of a claim, the claim is met (MPEP 2111.02). Since using the modified denticulation method described in the rejection of claim 1 for either on site fabrication or prefabrication is an intended use, and since modified Shoe is capable of performing this intended use, the claim is met.

15. As to claims 13, 17, and 21-24, Shoe teaches in a method for constructing a slab casting formwork: assembling a form at the location of a concrete joint by attaching formwork components together (column 1 line 60 to column 2 line 19, figures 1-2), using the form to cast a first slab therein (column 2 lines 29-32), stripping the form from a cured slab (column 3 lines 35-40), and casting adjacent slabs to be keyed with the first slab using protrusions 39 formed therein (column 2 lines 54-56). The slab can be made from concrete (abstract, column 1 lines 60-64). A vacancy is present behind the casting forms (figures 1 and 2). (Note: for examination, the term "within" at lines 13 and 14 of claims 13 and 17 respectively is interpreted as "between".)

Shoe does not appear to explicitly disclose the specific requirements for the patterned formwork. However, Blackburn teaches in a method for producing pavement-like structures: using a patterned former to pattern a joint between two concrete components (column 1 lines 60-65). The former can remain in site or be removed at some stage during construction (abstract). More specifically, the former can either be left intact at the concrete joint, or all/some of the former can be removed at the concrete joint (column 5 lines 45-55). The former is a studded plate having backs 130 and bridges 140 between square studs positioned laterally/longitudinally in relation to each other in a pattern (figures 8-9). The backs 130 and bridges 140 make up a lattice-like network of inter-communicating channels on the underside of the studded plate (column 6 lines 41-43). Since the backs and bridges form a network of inter-communicating channels, they meet the requirement of forming a vacancy below the surface of the studded plate. Blackburn's embodiment at figure 8 shows a vacancy below the upper surface of bridges 140, and Blackburn shows embodiments at figures 4, 6, and 7, which show a vacancy below surface of the studded plate. At figure 8, bridges 140 comprise a vertex which constitutes an area that is parallel and separate from a plane comprising the tops of the studs and a plane comprising the surface of the studded plate. At figure 9, the vertex of the backs 130 or bridges 140 constitutes an area that is parallel to and separate from a plane comprising the tops of the studs 16 and a plane comprising the surface 9 of the studded plate. (Note: the claims do not require that the backs or bridges comprise a surface area having a length and width that is parallel to and separate from the planes of the tops of the studs and the surface of the studded plate.) The studs

appear to have a stud side wall inclination angle greater than 60° (figures 8-9). In the alternative that the studs do not have the required inclination angle, it would have been obvious to substitute the required inclination angle for the inclination angle of the studs in Blackburn's depicted plate because the studs can be of any size, shape, depth, or relative spacing (column 6 lines 37-38).

Shoe teaches a method for constructing a slab casting formwork having studs for patterning a concrete joint which are removed after a slab is cured, and Blackburn teaches the use of a former for patterning concrete joints. It would have been obvious to substitute Blackburn's studded plate for the studs of Shoe because (a) Shoe teaches that the formers are used to produce cavities in slabs, and the Blackburn former suggests casting of slabs, or (b) one would have recognized the interlocking pattern provided by the Blackburn former as an interchangeable substitute for the pattern provided on the Shoe forms.

Modified Shoe thus teaches using a studded plate to pattern a joint between two concrete components. Modified Shoe does not appear to explicitly disclose using the studded plate to pattern concrete joints of large concrete components such as in box walls in a free balanced cantilever, in tunnels, in walls for buildings/dams, or in containers. However, if the prior art is capable of performing the intended use of a claim, the claim is met (MPEP 2111.02). Since using denticulation to pattern these types of components is an intended use, and since modified Shoe is capable of performing this intended use, the claims are met

16. As to claims 14 and 16, Blackburn does not appear to explicitly disclose the height or distance between the studs. However, it would have been obvious to optimize the stud heights and distances of Blackburn particularly in view of Blackburn's teaching that the studs can be of any size, shape, depth, or relative spacing (column 6 lines 37-38).

17. As to claims 18-20, Blackburn teaches the use of a studded plate that has studs positioned in relation to one another in a square diamond or polygonal pattern (figure 9). Additionally, in a 3x4 block of studs, a hexagonal positioning pattern is present between the two center studs in rows 1 and 3 and the two outer studs in row 2.

18. Claim 9 is rejected under 35 U.S.C. 103(a) as being unpatentable over Shoe et al. (US 3,823,465) in view of Blackburn (US 3,802,790) as applied to claims 1, 2, 8, and 10-24 above, and further in view of Schertzberg et al. (US 2002/0009566).

19. As to claim 9, modified Shoe does not appear to explicitly disclose that the face of the studded plate comprises a hose or string of swellable rubber that is partly cast into the first cast section. However, Schertzberg teaches in a method of constructing an injection hose: embedding an injection hose in a concrete cast section in order to fill voids left in concrete joints [0004]. It would have been obvious to apply the embedded hose of Schertzberg as an improvement to the modified Shoe method to help provide further reinforcement to the cast concrete joint.

Response to Arguments

20. Applicant's arguments filed 28 June 2010 have been fully considered but they are not persuasive.

21. In response to applicant's arguments with respect to the backs and bridges of the Blackburn reference (Remarks p. 9): as described in the rejections above, Blackburn teaches at figure 8 that bridges 140 comprise an vertex which constitutes an area that is parallel and separate from a plane comprising the tops of the studs and a plane comprising the surface of the studded plate. The figure shows phantom lines on the left-hand side which appear to point to the plate's flat surface which is beneath bridges 140. Since the claim requires only that backs or bridges comprise an area that is parallel to and separate from a plane comprising the tops of the studs and a plane comprising the surface of the studded plate, and since the Blackburn plate has bridges 140 which meet these requirements, the claim is met. Additionally, figure 9 shows an embodiment where both the backs 130 and the bridges 140 have a vertex that constitutes an area that is parallel to and separate from a plane comprising the tops of the studs and a plane comprising the surface of the studded plate. In response to applicant's arguments with respect to having a vacancy below the backs or bridges: Shoe shows a vacancy present behind the casting forms (figures 1 and 2), and since the combination provides the substitution of Blackburn's studded plate for the studs of Shoe, the combination leaves Shoe's formwork in place, and the required vacancy of the claim is met. Additionally, Blackburn teaches that the backs 130 and bridges 140 make up a lattice-like network of inter-communicating channels on the underside of the studded plate (column 6 lines 41-

43). Since the backs and bridges form a network of inter-communicating channels, they meet the requirement of forming a vacancy below the surface of the studded plate. Blackburn's embodiment at figure 8 shows a vacancy below the upper surface of bridges 140, and Blackburn shows embodiments at figures 4, 6, and 7, which show a vacancy below surface of the studded plate.

22. In response to applicant's arguments with respect to Blackburn's molding method (Remarks pp. 9-10): these arguments are rendered moot in view of the new grounds of rejection over the Shoe reference. Additionally, as described in the rejections above, Blackburn teaches using a patterned former to pattern a joint between two concrete components (column 1 lines 60-65). The former can remain in site or be removed at some stage during construction (abstract). More specifically, the former can either be left intact at the concrete joint, or all/some of the former can be removed at the concrete joint (column 5 lines 45-55). Although these teachings by Blackburn are not relied upon to meet the claims, they help to establish that both Shoe and Blackburn both pertain to the art of casting concrete joints.

Conclusion

23. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to ATUL KHARE whose telephone number is (571)270-7608. The examiner can normally be reached on Monday-Thursday 7:30 a.m. - 5:00 p.m. EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Christina Johnson can be reached on (571)272-1176. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/ATUL KHARE/
Examiner, Art Unit 1791

/Matthew J. Daniels/
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